CITY OF LOS ANGELES
CALIFORNIA

BOARD OF
PUBLIC WORKS

COMMISSIONERS

VALERIE LYNNE SHAW
PRESIDENT

ELLEN STEIN
VICE PRESIDENT

RONALD LOW
ADRIANA RUBALCAVA
JANICE WOOD

JAMES K. HAHN
MAYOR

DEPARTMENT OF
PUBLIC WORKS

BUREAU OF SANITATION

JUDITH A. WILSON
DIRECTOR

JAMES F. LANGLEY
RAYMOND J. KEARNEY
DREW SONES
ASSISTANT DIRECTORS

HYPERION TREATMENT PLANT
12000 VISTA DEL MAR
PLAYA DEL REY, CA 90293
TEL: (310)-648-5000
FAX: (310)-648-5539

February 12, 2002

Lauren Fondahl
Biosolids Coordinator
U.S. EPA - Region IX (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105-3901

CITY OF LOS ANGELES
HYPERION WASTEWATER TREATMENT PLANT
YEAR 2001 BIOSOLIDS ANNUAL REPORT

Dear Ms. Fondahl:

Enclosed is the 2001 Biosolids Annual Report for Hyperion Wastewater Treatment Plant. This report satisfies the generator reporting requirements in accordance with the U.S. EPA 40 CFR Part 503, Sewage Sludge Regulations. Also enclosed for your information in Appendix E is the dioxin data required by the Kern County Biosolids Land Application Ordinance.

If you have any questions, please contact Emmanuel Alloh of my staff at (310) 648-5211.

Sincerely yours,

Joseph E. Mundine
Plant Manager

cc: Judith Wilson
Ray Kearney
Steve Fortune
Traci Minamide
Lucy Jao
Steven Fan
Lemuel Paco
Emmanuel Alloh
Patty Jacobs
Ernesto Libunao
Pamela LaBeau
File

A:\NT-Biosolidsannual 503_2001 Cover letter.doc

USEPA 40 CFR, Part 503 Sewage Sludge
2001 Biosolids Annual Report

February 11, 2002

City of Los Angeles

Department of Public Works
Bureau of Sanitation

Hyperion Treatment Plant

TABLE OF CONTENTS

SECTION 1
BACKGROUND INFORMATION

The City of Los Angeles, Department of Public Works, Bureau of Sanitation operates four wastewater facilities (Hyperion, Terminal Island, Donald C. Tillman and Los Angeles Glendale) within a 600 square mile service area that includes four million people and 29 contracting cities and agencies. The Hyperion Treatment Plant (HTP) receives and processes flow from its service area and from the two water reclamation plants while the Terminal Island Treatment Plant (TITP) processes flow from its independent service area.

HTP, Donald C. Tillman, and Los Angeles Glendale facilities processed an average of 422.7 million gallons per day of wastewater and produced an average of 228.1 dry tons per day of biosolids during 2001. All of the biosolids were beneficially reused.

Thus, the City of Los Angeles must comply with the standards of the United States Environmental Protection Agency (USEPA) 40CFR Part 503 Sewage Sludge Regulations.

The following are the reporting requirements:

Preparer to Others:

General information was provided to land appliers and composters as stated in Section 503.12 (d), (f) and (g).

Preparer to USEPA Region 9:

Hyperion Treatment Plant is required to report the information in Section 503.18 as preparer of biosolids. The information includes the submittal of information in Section 503.17(a)(4)(i)(A) through (D) for HTP from January 2001 through December 2001.

Composters to USEPA Region 9:

The Griffith Park Composting facility is required to report information in Section 503.17(a)(2)(i) through (iv) directly to USEPA Region 9.

Beneficial Uses and Distribution of Biosolids

From January through December of 2001, biosolids generated by HTP were 100% beneficially used as soil amendment to grow feed and fiber crops, and an organic ingredient in the production of compost. Table 1 presents the distribution of biosolids among its beneficial use options.

Refer to Appendix A for facility information for preparers, composters and land appliers.

Table 1: Percent Distribution of Biosolids to Beneficial Use Options in 2001

Beneficial Use Options	Dry Tons	% Of Use
Composting	611	0.7
Land Application	82,632	99.3
Total	83,243	100

SECTION 2
503 REPORTING REQUIREMENTS

Information Provided to Land Appliers and Composters [503.12 (d), (f) and (g)]

All the information required under Sections 503.17 (a)(4)(i)(A) to (D) and 503.12 (g) were provided to the following composters:

1. Griffith Park Composting of City of Los Angeles

All the information required under Sections 503.17 (a)(4)(i)(A) to (D) and 503.12 (d) were provided to the following land appliers:

1. Responsible Biosolids Management
2. Bio Gro Systems/Synagro

Pollutant Concentrations 503.17 (a)(4)(i)(A)

Section 503.16 requires Hyperion Treatment Plant to monitor pollutant concentrations in biosolids on a monthly basis. Ten metals are analyzed monthly.

The results are summarized as follows:

- All metals concentrations were below Table 1 ceiling concentration limits of Section 503.13.
- All pollutant concentrations remained below Table 3 of Section 503.13.

Refer to Appendix B for the detailed, analytical test results and methods for pollutant concentrations.

The biosolids samples are prepared by the appropriate digestion and extraction procedures described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd edition, U.S. EPA, 1986 with Revisions up to 1998.

Certification Statement, Pathogen Reduction (PR) and Vector Attraction Reduction (VAR) [503.17 (a)(4)(i)(B) to (D)]

During the month of September, only five samples could be analyzed due to personnel changes. Additional internal sample monitoring procedures have been established to prevent such occurrences in the future.

Refer to Appendix C for the certification statements containing descriptions of PR and VAR for biosolids.

All biosolids complied with Class B requirements for PR and VAR.

APPENDIX A

Facility Information for Preparers, Composters and Land Appliers

FACILITY INFORMATION

Preparer of Biosolids:

HYPERION TREATMENT PLANT
City of Los Angeles
12000 Vista Del Mar
Playa del Rey, CA 90293
Tel. (310) 648 - 5000

Composters:

1. **GRIFFITH PARK COMPOSTING**
   City of Los Angeles
   5400 Griffith Park Drive
   Los Angeles, CA 90027
   Tel. (818) 834 - 5115

Land Appliers:

1. **RESPONSIBLE BIOSOLIDS MANAGEMENT**
   P. O. Box 40109
   Santa Barbara, CA 93140 - 0109
   Tel. (805) 962 - 5927

2. **BIO GRO SYSTEMS/SYNAGRO**
   10490 Dawson Canyon Rd
   Corona, CA 91719
   Tel. (909) 277 - 2662

APPENDIX B

Analytical Test Results of Biosolids Pollutant Concentration Per Table 1 and 3 of 503.13

Table 2. BENEFICIAL USE ASSESSMENT OF BIOSOLIDS AT HYPERION TREATMENT PLANT

mg/kg of dry weight

	pH	%TS	As	Cd	Cr	Cu	Mo	Pb	Hg	Ni	Se	Zn
12/1/01	7.9	30.3	11.4	16.5	100	921	20.4	50.8	3.62	77.6	12	1160
11/1/01	8.4	30.3	4.72	15.0	138	937	22.4	47.5	2.46	83.2	11.8	1130
10/1/01	8.3	29.1	7.84	19.4	103	963	29.0	70.0	2.47	89.6	17.3	1160
9/1/01	8.5	28.2	10.9	15.9	98.6	957	30.8	56.7	2.09	86.9	18.9	1260
8/1/01	8.4	28.7	6.45	18.0	95.5	826	25.8	62.4	2.29	92.7	11.7	1150
7/1/01	8.3	29.8	5.17	21.1	110	902	26.3	46.0	3.27	108	3.93	1248
6/1/01	8.6	29.6	4.70	21.5	120	990	21.2	42.9	1.87	102	7.84	1160
5/1/01	8.1	29.5	5.63	17.1	105	837	15.3	60.3	2.70	120	8.78	1071
4/1/01	8.2	30.0	6.90	24.4	112	847	22.7	47.0	2.87	115	6.83	1020
3/1/01	8.7	29.1	5.60	34.7	114	893	16.9	48.5	2.03	125	6.19	1050
2/1/01	8.1	30.0	5.80	14.6	108	731	17.0	51.3	1.97	110	8.70	1030
1/1/01	8.5	29.6	5.61	19.5	97.3	932	17.6	72.3	3.51	106	10.9	1150
Average	8.4	29.4	6.30	20.1	109	892	22.3	55.0	2.50	104	10.26	1130
Max	8.7	30.3	11.4	34.7	138	990	30.8	72.3	3.62	125	18.9	1260
Min	8.1	28.2	4.70	14.6	95.5	731	15.3	42.9	1.87	77.6	3.93	1020
Ceiling Conc.*			75	85	***	4300	75	840	57	420	100	7500
Pollutant Conc.**			41	39	***	1500	***	300	17	420	100	2800

* Ceiling concentration in Table 1 of EPA Part 503 Sludge Regulation.

** Pollutant concentration in Table 3 of EPA Part 503 Sludge Regulation

*** Limit was deleted according to Federal Register Vol. 60, No. 206 of Oct. 25, 1995

Table 3. HTP BIOSOLIDS - NUTRIENTS AND MISC. METALS - EVALUATION FOR LOADING PURPOSES

mg/kg of dry weight

	%TS	Al	Ca	Fe	K	Mg	NO3-N	Tot-P	Na	NH3-N	Org-N
12/1/01	30.3	12000	43200	38600	1100	6530	5.0	33700	940	9900	41900
11/1/01	30.3	11900	46800	46100	980	5810	<5	33800	990	9430	40100
10/1/01	29.1	12500	47600	43300	770	6560	<5	41200	1070	10400	41200
9/1/01	28.2	13500	47500	36500	1270	7620	<5	35900	1300	9950	44000
8/1/01	28.7	12600	42900	41500	955	6270	5.23	38600	1030	8590	45800
7/1/01	29.8	13900	49300	41900	1150	7010	36.8	37900	1040	8360	44500
6/1/01	29.6	12700	47000	33400	1020	5880	12.3	35100	1550	14200	39200
5/1/01	29.5	13600	42700	29600	939	6140	56.7	35900	1290	8690	43700
4/1/01	30.0	13500	45700	34300	1300	6600	23.2	38600	2010	8310	44800
3/1/01	29.1	13900	46800	33000	1400	6740	12.0	35000	1470	10500	43800
2/1/01	30.0	14900	47200	32100	1400	6760	33.8	36400	1890	9030	44200
1/1/01	29.6	15300	46800	28300	1070	6560	28.0	36400	1290	9420	46200
Average	29.4	13500	46400	36400	1110	6540	26.0	36800	1360	9720	43400
Max	30.3	15300	49300	46100	1400	7620	56.7	41200	2010	14200	46200
Min	28.2	11900	42700	28300	770	5810	5.2	33800	940	8310	39200
Average	29.4	13482	46391	36364	1114	6541	26	36800	1357	9716	43409
Max	30.3	15300	49300	46100	1400	7620	56.7	41200	2010	14200	46200
Min	28.2	11900	42700	28300	770	5810	5	33800	940	8310	39200

APPENDIX C

Pathogens and Vector Attraction Reduction Certification Statements

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
January 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Sludge undergoes anaerobic, high rate, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	5.61	41	75
Cadmium	19.5	39	85
Chromium	97.3	a	a
Copper	932	1500	4300
Lead	72.3	300	840
Mercury	3.51	17	57
Molybdenum	17.6	b	75
Nickel	106	420	420
Selenium	10.9	100	100
Zinc	1150	2800	7500
Organic-N	46200	N/A	N/A
Ammonia-N	9420	N/A	N/A
Nitrate-N	28.0	N/A	N/A
Percent Solids	29.6	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** March 8, 2001

Joseph E. Mundine, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
February 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Sludge undergoes anaerobic, high rate, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	5.8	41	75
Cadmium	14.6	39	85
Chromium	108	a	a
Copper	731	1500	4300
Lead	51.3	300	840
Mercury	1.97	17	57
Molybdenum	17.0	b	75
Nickel	110	420	420
Selenium	8.70	100	100
Zinc	1030	2800	7500
Organic-N	44200	N/A	N/A
Ammonia-N	9030	N/A	N/A
Nitrate-N	33.8	N/A	N/A
Percent Solids	30	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____
Joseph E. Mundine , Hyperion Treatment Plant Manager

Date: March 27, 2001

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
March 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Sludge undergoes anaerobic, high rate, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	5.6	41	75
Cadmium	34.7	39	85
Chromium	114	A	a
Copper	893	1500	4300
Lead	48.5	300	840
Mercury	2.03	17	57
Molybdenum	16.9	b	75
Nickel	125	420	420
Selenium	6.19	100	100
Zinc	1052	2800	7500
Organic-N	43800	N/A	N/A
Ammonia-N	10500	N/A	N/A
Nitrate-N	12.0	N/A	N/A
Percent Solids	29.1	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** 4/10/2001

Joseph E. Mundine, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
April 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	6.9	41	75
Cadmium	24.4	39	85
Chromium	112	A	a
Copper	847	1500	4300
Lead	47	300	840
Mercury	2.87	17	57
Molybdenum	22.7	b	75
Nickel	115	420	420
Selenium	6.83	100	100
Zinc	1020	2800	7500
Organic-N	44800	N/A	N/A
Ammonia-N	8310	N/A	N/A
Nitrate-N	23.2	N/A	N/A
Percent Solids	30.0	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** 5/18/2001

Joseph E. Mundine, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
May 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	5.63	41	75
Cadmium	17.1	39	85
Chromium	105	A	a
Copper	837	1500	4300
Lead	60	300	840
Mercury	2.70	17	57
Molybdenum	15.3	b	75
Nickel	120	420	420
Selenium	8.78	100	100
Zinc	1071	2800	7500
Organic-N	43700	N/A	N/A
Ammonia-N	8690	N/A	N/A
Nitrate-N	56.7	N/A	N/A
Percent Solids	29.5	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** 7/05/01

Joseph E. Mundine , Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
June 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	4.7	41	75
Cadmium	21.5	39	85
Chromium	120	A	a
Copper	990	1500	4300
Lead	42.9	300	840
Mercury	1.87	17	57
Molybdenum	21.2	b	75
Nickel	102	420	420
Selenium	7.84	100	100
Zinc	1160	2800	7500
Organic-N	39200	N/A	N/A
Ammonia-N	14200	N/A	N/A
Nitrate-N	12.3	N/A	N/A
Percent Solids	29.6	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** 8/7/2001

Joseph E. Mundine, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
July 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	5.17	41	75
Cadmium	21.1	39	85
Chromium	110	A	a
Copper	902	1500	4300
Lead	46	300	840
Mercury	3.27	17	57
Molybdenum	26.3	b	75
Nickel	108	420	420
Selenium	3.93	100	100
Zinc	1248	2800	7500
Organic-N	44500	N/A	N/A
Ammonia-N	8360	N/A	N/A
Nitrate-N	36.8	N/A	N/A
Percent Solids	29.8	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** 8/28/2001

Joseph E. Mundine, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
August 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge are reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	6.45	41	75
Cadmium	18	39	85
Chromium	95.5	A	a
Copper	826	1500	4300
Lead	62.4	300	840
Mercury	2.29	17	57
Molybdenum	25.8	b	75
Nickel	92.7	420	420
Selenium	11.7	100	100
Zinc	1150	2800	7500
Organic-N	45800	N/A	N/A
Ammonia-N	8590	N/A	N/A
Nitrate-N	5.23	N/A	N/A
Percent Solids	28.7	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** Oct. 03, 2001
Joseph E. Mundine, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
September 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are normally collected at the time of the sewage sludge is used. This month, only five samples could be analyzed due to personnel changes. Additional internal sample monitoring procedures have been established to prevent future such occurrences.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	10.9	41	75
Cadmium	15.9	39	85
Chromium	98.6	A	a
Copper	957	1500	4300
Lead	56.7	300	840
Mercury	2.09	17	57
Molybdenum	30.8	b	75
Nickel	86.9	420	420
Selenium	18.9	100	100
Zinc	1260	2800	7500
Organic-N	44000	N/A	N/A
Ammonia-N	9950	N/A	N/A
Nitrate-N	<5	N/A	N/A
Percent Solids	28.2	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** Oct 18, 2001

Joseph E. Mundine, Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
October 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alte rnative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, thir d Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	7.8	41	75
Cadmium	19.4	39	85
Chromium	103	A	a
Copper	963	1500	4300
Lead	70	300	840
Mercury	2.47	17	57
Molybdenum	29	b	75
Nickel	89.6	420	420
Selenium	17.3	100	100
Zinc	1160	2800	7500
Organic-N	41200	N/A	N/A
Ammonia-N	10400	N/A	N/A
Nitrate-N	<5	N/A	N/A
Percent Solids	29.1	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** 11/8/2001

Joseph E. Mundine , Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
November 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alte rnative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, thir d Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	4.72	41	75
Cadmium	15.0	39	85
Chromium	138	a	a
Copper	937	1500	4300
Lead	47.5	300	840
Mercury	2.46	17	57
Molybdenum	22.4	b	75
Nickel	83.2	420	420
Selenium	11.8	100	100
Zinc	1130	2800	7500
Organic-N	40100	N/A	N/A
Ammonia-N	9430	N/A	N/A
Nitrate-N	<5	N/A	N/A
Percent Solids	30.3	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____ **Date:** 1-3-2002

Joseph E. Mundine , Hyperion Treatment Plant Manager

City of Los Angeles
Hyperion Treatment Plant

Biosolids Certification Statement
For Meeting Pathogens and Vector Attraction Reduction Requirements
December 2001

The following pathogens and vector attraction reduction requirements has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b)(2) is met.
Class B – Alternative 1

i. Seven samples of the sewage sludge are collected at the time of the sewage sludge is used.
ii. The geometric mean of the density of fecal coliform is less than 2,000,000 Most Probable Number per gram of total solids (dry weight basis).

503.17 (a)(4)(i)(D) - A description of how the vector attraction reduction requirement in 503.33 (b)(1) is met.
Approximately three-quarter of sludge undergoes anaerobic, high rate, mesophilic digestion and one-quarter of sludge undergoes thermophilic digestion. The mass of volatile solids in the sewage sludge is reduced by a minimum of 38 percent.

Biosolids samples were prepared and tested in accordance with EPA SW – 846, third Edition, 1986:

Constituent	Concentration Dry Weight (mg/kg)	Pollutant Concentrations (Table 3, 40 CFR 503.13) Monthly Average (mg/kg)	Ceiling Concentrations (Table 1, 40 CFR 503.13) Daily Maximum (mg/kg)
Arsenic	11.4	41	75
Cadmium	16.5	39	85
Chromium	100	a	a
Copper	921	1500	4300
Lead	50.8	300	840
Mercury	3.62	17	57
Molybdenum	20.4	b	75
Nickel	77.6	420	420
Selenium	12	100	100
Zinc	1160	2800	7500
Organic-N	41900	N/A	N/A
Ammonia-N	9900	N/A	N/A
Nitrate-N	5	N/A	N/A
Percent Solids	30.3	N/A	N/A

a Limit was deleted according to Federal Register vol. 60, No. 206 of October 25, 1995.
b EPA has temporarily removed molybdenum monthly average limit.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens and vector attraction reduction requirements.
I certify under, penalty of law, that the class B pathogens requirements in 503.32 (b)(2) and the vector attraction reduction requirements in 503.33 (b)(1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogens and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By: _____
Joseph E. Mundine , Hyperion Treatment Plant Manager

Date: January 11, 2002

APPENDIX D

Fecal Coliform Data

Fecal Coliform Data

Seven sewage sludge samples were collected within a fourteen-day period each month and tested for fecal coliform.

Months	Fecal Coliform (MPN/g dry wt.)
	Geometric mean
January	<65,752
February	53,000
March	66,000
April	41,000
May	71,000
June	71,000
July	150,000
August	95,000
September	83,000
October	63,000
November	100,000
December	<630,934

APPENDIX E

Dioxin data per Kern County Biosolids Land Application Ordinance

Table 4. HTP BIOSOLIDS - CONCENTRATIONS OF DIOXIN AND PCBs (mg/kg)

Sampling Date	Dioxin *
	(2,3,7,8-TCDD)
	ppb (ng/g) wet wt.
12/2/01	<0.023
11/2/01	<0.028
10/1/01	<0.053
9/4/01	<0.017
8/2/01	<0.025
7/2/01	<0.016
6/2/01	<0.011
5/2/01	<0.019
4/1/01	<0.041
3/2/01	<0.026
2/1/01	<0.015
1/2/01	<0.038

*: Low Resolution analysis by STL Sacramento